

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently amended): A security paper comprising:

_____ at least two plies of paper each formed of a respective fibrous mat, in which, and
_____ at least in one area, at least one interlayer ~~placed between~~ located at a junction of the two plies of paper,

_____ wherein the interlayer includes at least one element giving the paper a high double-fold resistance, as defined in the standard NF ISO 5626, said element being in ~~“diffuse” form and/or~~
at least one of (i) a soluble element or an emulsifiable element, and (ii) an element in the form of particles, and

_____ wherein the two plies and said interlayer element being are intimately joined together in the interlayer, wherein (i) constituents of each of the two plies are interpenetrating with each other in the interlayer, and (ii) constituents of each of the two plies and constituents of the interlayer including said element are interpenetrating with one another in the interlayer,

_____ so that the fibrous mats of the two plies of paper form a unitary fibrous mat throughout the area of the interlayer.

2. (Currently amended): The security paper as claimed in claim 1, wherein said ~~layer~~
interlayer is placed-formed by throwing a composition containing said element.

3. (Currently amended): The security paper as claimed in claim 1, wherein the ~~surface between the two plies is entirely covered by said layer~~interlayer covers the entire surface area of the two plies.

4. (Previously presented): The security paper as claimed in claim 1, wherein the weight of each ply is between 30 and 60 g/m².

5. (Previously presented): The security paper as claimed in claim 1, wherein the double-fold resistance of the paper is greater than a value DF_{min} , where:

$$DF_{min} = 75\,000E,$$

where E is the percentage dry weight of the element in the paper.

6. (Previously presented): The security paper as claimed in claim 1, wherein said element is chosen from mineral pigments, especially clays or titanium dioxide, organic pigments, natural or synthetic binders, especially starches or polyvinyl alcohols, polyurethanes or styrene/butadiene copolymers, or natural or synthetic fibers, especially polyester or polyamide fibers, and mixtures thereof.

7. (Previously presented): The security paper as claimed in claim 1, wherein at least one of the plies of paper includes a watermark.

8. (Previously presented): The security paper as claimed in claim 1, wherein the interlayer also includes at least one authentication element.

9. (Previously presented): The security paper as claimed in claim 8, wherein the authentication element can be detected optically.

10. (Previously presented): The security paper as claimed in claim 9, wherein the authentication element is chosen from iridescent particles, fluorescent particles, phosphorescent particles, colored particles, and flakes.

11. (Currently amended): The security paper as claimed in claim 8, wherein the authentication element ~~reacts to certain stimulations giving a specific signal that can be detected using a suitable device~~ is chosen from substances that react to electromagnetic fields.

12. (Currently amended): The security paper as claimed in claim 11, wherein the authentication element is chosen from substances that react to ~~electromagnetic fields, in particular of the~~ microwave or infrared or ultraviolet type fields.

13. (Previously presented): The security paper as claimed in claim 8, wherein the element providing the double-fold resistance is also an authentication element.

14. (Withdrawn – Currently amended): A process for manufacturing a security paper having a high double-fold resistance as defined in the standard NF ISO 5626, as claimed in claim 1, which comprises the following steps:

- a first pulp composition is deposited on a first dewatering wire;
- the first pulp composition is drained so as to form a first fibrous mat;
- a second pulp composition is deposited on a second dewatering wire;
- the second pulp composition is drained so as to form a second fibrous mat;
- a liquid composition, containing a soluble element, or an element in emulsion or in the form of particles, giving said high double-fold resistance, is thrown onto at least one of said fibrous mats; and
- said first fibrous mat is joined to said second fibrous mat in order to form a unitary fibrous mat throughout the area of the interlayer.

_____ wherein (i) constituents of each of the two plies are interpenetrating with each other in the interlayer, and (ii) constituents of each of the two plies and constituents of the interlayer including said element are interpenetrating with one another in the interlayer,

_____ the element is distributed in the interlayer, and

_____ a portion of each of the two plies and said element are intimately joined together in the interlayer, wherein constituents of each of the two plies and constituents of the interlayer including said element are interpenetrating in the interlayer.

15. (Withdrawn): The process as claimed in claim 14, wherein said composition is thrown by spraying.

16. (Withdrawn): The process as claimed in claim 14, wherein at least one watermark is formed in the first and/or the second fibrous mat.

17. (Withdrawn): The process as claimed in claim 14, wherein a liquid composition containing at least one authentication element is thrown onto said first and/or said second fibrous mat.

18. (Withdrawn): The process as claimed in claim 14, wherein the first pulp composition or the second pulp composition is drained by means of a Fourdrinier wire, a double wire or a cylinder mold.

19. (Withdrawn): The process as claimed in claim 14, wherein it includes additional steps of pressing and drying the unitary fibrous mat.

20. (New): The process as claimed in claim 14, wherein the liquid solution is a binder in latex form.

21. (New): The process as claimed in claim 14, wherein the liquid solution is a latex of a polyurethane or styrene/butadiene binder.

22. (New): The security paper as claimed in claim 1, wherein the element is a binder in latex form.

23. (New): The security paper as claimed in claim 1, wherein the element is a latex of a polyurethane or styrene/butadiene copolymer binder.